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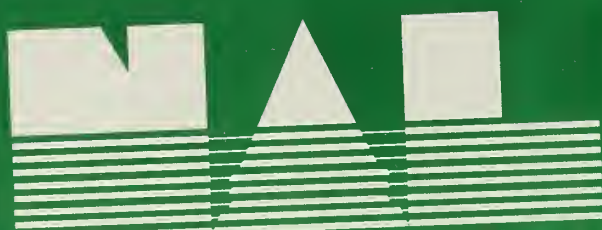
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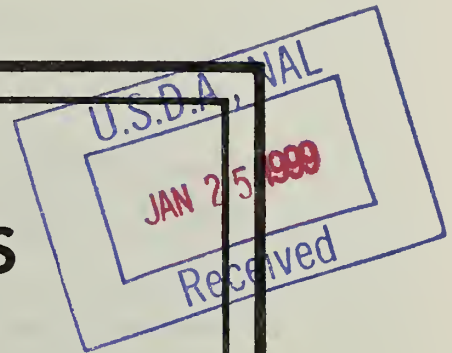
AGRICULTURAL MARKETING SERVICE

Washington, D. C.

**UNITED STATES  
STANDARDS**

*for grades of*

**CANNED PEAS**



EFFECTIVE MAY 13, 1955

Sixth Issue

These standards supersede the standards  
which have been in effect since  
May 1, 1942.

This is the sixth issue of the United States Standards for Grades of Canned Peas. These standards are issued by the Department after careful consideration of all data and views submitted.

These standards were published in the Federal Register on May 13, 1955 (20 F.R. 3252) and become effective on this date. Section 52.2293 was amended (22 F.R. 3535) to become effective July 1, 1957.

As in the case of other standards for processed fruits and vegetables, these standards are designed to serve as a convenient basis for sales, for establishing quality control programs, and for determining loan values. They will also serve as a basis for the inspection of this commodity by Federal inspection service, which is available for the inspection of other processed products as well.

The Department welcomes suggestions which might aid in improving these standards in future revisions. Comments may be submitted to, and copies of these standards obtained from:

Chief, Processed Products Standardization  
and Inspection Branch  
Fruit and Vegetable Division  
Agricultural Marketing Service  
United States Department of Agriculture  
Washington 25, D. C.

*Reprinted January, 1959*



# UNITED STATES STANDARDS FOR GRADES OF CANNED PEAS <sup>1</sup>

Effective May 13, 1955

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AUTHORITY: §§ 52.2281 to 52.2294 issued under sec. 205, 60 Stat. 1090, 7 U. S. C. 1624.

## IDENTITY, TYPES, AND GRADES

§ 52.2281 *Identity.* (a) "Canned peas" means the canned product prepared from clean, sound, shelled, succulent peas as such product is defined in the Standards of Identity for Canned Peas (21 CFR 51.0) issued pursuant to the Federal Food, Drug, and Cosmetic Act.

§ 52.2282 *Types of canned peas.* (a) "Early peas" means canned succulent peas of Alaska or other smooth skin varieties.

(b) "Sweet peas" means canned succulent peas of sweet, wrinkled varieties.

### § 52.2283 *Grades of canned peas.*

(a) "U. S. Grade A" or "U. S. Fancy" is the quality of canned peas that possess similar varietal characteristics; that possess a good flavor; that possess a good liquor; that possess a good color; that are practically free from defects; that are tender; and that for those factors which are scored in accordance with the scoring system outlined in this subpart the total score is not less than 90 points: *Provided*, That the canned peas may possess a reasonably good liquor or fairly good liquor; and may possess a reasonably good color if the total score is not less than 90 points.

(b) "U. S. Grade B" or "U. S. Extra Standard" is the quality of canned peas that possess similar varietal characteristics; that possess a good flavor; that possess a reasonably good liquor; that possess a reasonably good color; that are reasonably free from defects; that are reasonably tender; and that for those factors which are scored in accordance with the scoring system outlined in this subpart the total score is not less than 80 points: *Provided*, That the canned peas may possess a fairly good liquor and a fairly good color if the total score is not less than 80 points.

(c) "U. S. Grade C" or "U. S. Standard" is the quality of canned peas that possess similar varietal characteristics; that possess a fairly good flavor; that possess a fairly good liquor; that possess a fairly good color; that are fairly free from defects; that are fairly tender; and that for those factors which are scored in accordance with the scoring system outlined in this subpart the total score is not less than 70 points.

<sup>1</sup> Compliance with these standards does not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act.

(d) "Substandard" is the quality of canned peas that fail to meet the requirements of U. S. Grade C or U. S. Standard and that may or may not meet the Standard of Quality for Canned Peas issued pursuant to the Federal Food, Drug, and Cosmetic Act.

#### FILL OF CONTAINER

§ 52.2284 *The standard of fill of container.* The standard of fill of container for canned peas is not incorporated in the grade of the finished product, since fill of container, as such, is not a factor of quality for the purposes of these grades. Canned peas shall be considered standard in fill if they meet the standard of fill promulgated under the Federal Food, Drug, and Cosmetic Act (21 CFR 51.2). The standard is as follows: If the container is so filled that, when the peas and liquid are removed from the container and returned thereto, the leveled peas (irrespective of the quantity of the liquid), 15 seconds after they are so returned completely fill the container. A container with lid attached by double seam shall be considered to be completely filled when it is filled to the level  $\frac{3}{16}$  inch vertical distance below the top of the double seam; and a glass container shall be considered to be completely filled when it is filled to the level  $\frac{1}{2}$  inch vertical distance below the top of the container. Canned peas that do not meet this requirement are "Below Standard in Fill."

§ 52.2285 *Sizes of peas.* For the purpose of these grades, the sizes of peas are not considered in ascertaining the quality of the product except for the factor of defects in determining pieces of peas. The size of a pea is determined on the basis of the diameter of the circular opening(s) through which the pea will pass or will not pass without force or pressure. The size designations applicable to peas in canned peas and the diameters as aforesaid are shown in Table No. I of this section.

TABLE NO. I—SIZES OF PEAS IN CANNED PEAS

Size designation	Diameter of circular openings in inches	
	Will not pass through—	Will pass through—
Size 1.....	-----	$9\frac{1}{32}$
Size 2.....	$9\frac{1}{32}$	$10\frac{1}{32}$
Size 3.....	$10\frac{1}{32}$	$11\frac{1}{32}$
Size 4.....	$11\frac{1}{32}$	$12\frac{1}{32}$
Size 5.....	$12\frac{1}{32}$	$13\frac{1}{32}$
Size 6.....	$13\frac{1}{32}$	$14\frac{1}{32}$
Size 7.....	$14\frac{1}{32}$	-----

#### FACTORS OF QUALITY

§ 52.2286 *Ascertaining the grade.*

(a) The grade of canned peas is ascertained by considering the factors of quality which are not scored and those which are scored as follows:

(1) *Factors which are not scored.* (i) Varietal characteristics.

(ii) Flavor.

(2) *Factors which are scored.* The relative importance of each factor which is scored is expressed numerically on the scale of 100. The maximum number of points that may be given such factors are:

Factors:	Points
Liquor .....	10
Color .....	10
Defects .....	30
Maturity and tenderness.....	50
Total score.....	100

(b) "Good flavor" means that the product has a good characteristic normal flavor and odor for the maturity and is free from objectionable flavors and objectionable odors of any kind.

(c) "Fairly good flavor" means that the product may be lacking in good characteristic normal flavor and odor but is free from objectionable flavors and objectionable odors of any kind.

§ 52.2287 *Ascertaining the rating for the factors which are scored.* The essential variations within each factor which is scored are so described that the value



may be ascertained for each factor and expressed numerically. The numerical range within each factor which is scored is inclusive. (For example, "27 to 30 points" means 27, 28, 29, or 30 points.)

§ 52.2288 *Liquor*—(a) (A) *classification*. Canned peas that possess a good liquor may be given a score of 9 or 10 points. "Good liquor" means that the color of the liquor is typical, may possess a slight cloudiness or slight tint of green, that not more than a slight quantity of suspended material or sediment may be present, and that the liquor is not viscous.

(b) (B) *classification*. If the canned peas possess a reasonably good liquor, a score of 8 points may be given. "Reasonably good liquor" means that the liquor may be cloudy but not off color; that not more than a moderate quantity of suspended material or sediment may be present and that the liquor may be not more than slightly viscous.

(c) (C) *classification*. If the canned peas possess a fairly good liquor, a score of 7 points may be given. "Fairly good liquor" means the liquor may be very cloudy, may possess a pronounced accumulation of sediment, may be dull but not off color, and may be viscous but not so viscous that the liquor will not separate from the peas.

(d) (SStd.) *classification*. Canned peas that fail to meet the requirements of paragraph (c) of this section may be given a score of 0 to 6 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§ 52.2289 *Color*—(a) (A) *classification*. Canned peas that possess a good color may be given a score of 9 or 10 points. "Good color" means that the canned peas possess a color typical of tender peas of similar varietal characteristics, are bright, and that the product is practically free from peas that materially detract from the overall color appearance (includes peas commonly referred to as "blond" or "cream colored" peas).

(b) (B) *classification*. If the canned peas possess a reasonably good color, a score of 7 or 8 points may be given. "Reasonably good color" means that the

canned peas possess a color typical of reasonably tender peas of similar varietal characteristics, are reasonably bright, and that the appearance of the product is reasonably free from peas that materially detract from the overall color appearance (includes peas commonly referred to as "blond" or "cream colored" peas).

(c) (C) *classification*. Canned peas that possess a fairly good color may be given a score of 5 or 6 points. Canned peas that fall into this classification shall not be graded above U. S. Grade B or U. S. Extra Standard, regardless of the total score for the product (this is a partial limiting rule). "Fairly good color" means that the canned peas possess a color typical of fairly tender peas of similar varietal characteristics, and that the appearance of the product is fairly free from peas that materially detract from the overall color appearance (includes peas commonly referred to as "blond" or "cream colored" peas).

(d) (SStd.) *classification*. Canned peas that are artificially colored or fail to meet the requirements of paragraph (c) of this section may be given a score of 0 to 4 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule), and, in addition, when artificially colored, the canned peas are "Below Standard in Quality—Artificially Colored."

§ 52.2290 *Defects*—(a) *General*. The factor of defects refers to the degree of freedom from harmless extraneous vegetable material, pieces of peas, minor discoloration, spotted or otherwise discolored peas, and other defects.

(1) "Harmless extraneous vegetable material" means:

(i) Green tender vegetable material common to the pea plant, such as leaves, pea pods, and stems;

(ii) Non-deleterious or non-poisonous type of thistle buds, nightshade berries, or other similar type buds or berries, from other plants; and

(iii) Other predominant spherical or cylindrical vegetable material from other plants which are tender and similar in color to canned peas.

(2) "Piece of pea" (broken pea)<sup>2</sup> means:

(i) A whole pea from which a cotyledon or a large portion thereof has become separated;

(ii) Two detached whole cotyledons;

(iii) Pieces of detached cotyledons aggregating the equivalent of an average size cotyledon; and

(iv) A whole detached skin or portions of detached skin aggregating the equivalent of an average size whole skin.

(3) "Minor discoloration" means discoloration which slightly affects but does not materially affect the appearance or eating quality of the pea.

(4) "Spotted or otherwise discolored" means a pea spotted or otherwise discolored to an extent that the appearance or eating quality of the pea is materially affected, such as vivid-green peas, or peas showing brown, yellow, or dark discolored areas. (Does not include peas commonly referred to as "blond" or "cream colored" peas which are scored under the factor of color.)

(b) (A) *classification*. Canned peas that are practically free from defects may be given a score of 27 to 30 points. "Practically free from defects" means:

(1) That for approximately each 100 ounces of net contents there may be present:

(i) One piece, or pieces, of vegetable material, common to the pea plant having an aggregate area of  $\frac{1}{4}$  square inch ( $\frac{1}{2}$ " x  $\frac{1}{2}$ ") on one surface of the piece, or pieces; or

(ii) One thistle bud or nightshade berry or other spherical piece of vegetable material from other plants, not exceeding the size of a No. 4 size pea; or

(iii) One cylindrical piece or pieces of vegetable material from other plants, not exceeding  $\frac{1}{2}$  inch in length in the aggregate.

(2) That 3 percent, by count, of the peas may be pieces of peas in sizes larger than size 2 or in blends of sizes, except

that 5 percent, by count, of the peas may be pieces of peas in size 1 and size 2 or in blends of size 1 and size 2.

(3) That  $\frac{1}{2}$  of 1 percent, by count, of the peas may be spotted or otherwise discolored: *Provided*, That harmless extraneous vegetable material, pieces of peas, minor discoloration, spotted or otherwise discolored peas, and other defects individually or collectively do not more than slightly affect the appearance or eating quality of the product.

(c) (B) *classification*. If the canned peas are reasonably free from defects, a score of 24 to 26 points may be given. Canned peas that fall into this classification except for pieces of peas, shall not be graded above U. S. Grade B or U. S. Extra Standard, regardless of the total score for the product (this is a limiting rule). "Reasonably free from defects" means:

(1) That for approximately each 50 ounces of net contents there may be present:

(i) One piece, or pieces, of vegetable material, common to the pea plant having an aggregate area of  $\frac{1}{4}$  square inch ( $\frac{1}{2}$ " x  $\frac{1}{2}$ ") on one surface of the piece, or pieces; or

(ii) One thistle bud or nightshade berry or other spherical piece of vegetable material from other plants, not exceeding the size of a No. 4 size pea; or

(iii) One cylindrical piece or pieces of vegetable material from other plants, not exceeding  $\frac{1}{2}$  inch in length in the aggregate.

(2) That 7 percent, by count, of the peas may be pieces of peas; and

(3) That 2 percent, by count, of the peas may be spotted or otherwise discolored: *Provided*, That harmless extraneous vegetable material, pieces of peas, minor discoloration, spotted or otherwise discolored peas, and other defects individually or collectively do not materially affect the appearance or eating quality of the product.

(d) (C) *classification*. If the canned peas are fairly free from defects a score of 21 to 23 points may be given. Canned peas that fall into this classification shall not be graded above U. S. Grade C or

<sup>2</sup> The "percent by count of peas" as pieces of peas is calculated by dividing the total number of pieces of peas by the total number of peas and pieces of peas. (A pea held together by its skin, even though the cotyledons are partly crushed or the skin split is considered an unbroken pea.)



U. S. Standard, regardless of the total score for the product (this is a limiting rule). "Fairly free from defects" means:

(1) That  $\frac{1}{2}$  of 1 percent of the drained weight of the peas may be harmless extraneous vegetable material;<sup>3</sup>

(2) That 10 percent of the drained weight of the peas may be pieces of peas,<sup>3</sup> and

(3) That 4 percent, by count, of the peas may be spotted or otherwise discolored: *Provided*, That harmless extraneous vegetable material, pieces of peas, minor discoloration, spotted or otherwise discolored peas, and other defects individually or collectively do not seriously affect the appearance or eating quality of the product.

(e) (*SStd.*) *classification*. Canned peas that fail to meet the requirements of paragraph (d) of this section may be given a score of 0 to 20 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule), and may also be "Below Standard in Quality—Good Food—Not High Grade" for the following applicable reasons: "Excessive Foreign Material," "Excessive Broken Peas," "Excessive Discolored Peas."

§ 52.2291 *Maturity and tenderness—*

(a) *General*. The determination of maturity and tenderness in the (A) and (B) classifications in paragraphs (b) and (c) of this section is based on the brine flotation test as outlined herein and ruptured peas with respect to the (B) classification. The maturity and tenderness in the (C) classification is based on the brine flotation test outlined in this subpart, the alcohol-insoluble solids test and other tenderness test as outlined in the Standard of Quality for Canned Peas (21 CFR 51.1) promulgated under the Federal Food, Drug, and Cosmetic Act.

(b) (A) *classification*. Canned peas that are tender may be given a score of 45 to 50 points. "Tender" means that the peas comply with the requirements of Table No. II of this paragraph.

TABLE No. II

Type	Size	Maximum number of peas that sink in 10 seconds (percent by count)	Percentage of salt in solution
Sweet.....	All sizes.....	12 2	11 13
Early.....	All sizes.....	20 2	11 13½

(c) (B) *classification*. If the canned peas are reasonably tender, a score of 41 to 44 points may be given. Canned peas that fall into this classification shall not be graded above U. S. Grade B or U. S. Extra Standard, regardless of the total score for the product (this is a limiting rule). "Reasonably tender" means:

(1) That the skins of not more than 5 percent, by count, of the peas may be ruptured to a width  $\frac{1}{16}$  inch or more; and

(2) That in the brine flotation test the peas comply with the requirements shown in Table No. III of this paragraph.

TABLE No. III

Type	Size	Maximum number of peas that sink in 10 seconds (percent by count)	Percentage of salt in solution
Sweet.....	All sizes.....	15 4	13 15
Early.....	All sizes.....	30 8	13½ 15

(d) (C) *classification*. If the canned peas are fairly tender, a score of 37 to 40 points may be given. Canned peas that fall into this classification shall not be graded above U. S. Grade C or U. S. Standard, regardless of the total score for the product (this is a limiting rule). "Fairly tender" means:

(1) That the skins of not more than 25 percent, by count, of the peas may be ruptured to a width of  $\frac{1}{16}$  inch or more;<sup>3</sup>

(2) That not less than 90 percent, by count, of the peas are of such tenderness

<sup>3</sup> Determined as outlined in the Standard of Quality for Canned Peas (21 CFR 51.1) promulgated under the Federal Food, Drug, and Cosmetic Act.

that they are crushable by a weight of not more than 907.2 grams (2 pounds); and<sup>3</sup>

(3) That the alcohol-insoluble solids of early type peas are not more than 23.5 percent and of sweet type peas not more than 21 percent.<sup>3</sup>

The following requirements shown in Table No. IV of this paragraph, with respect to the brine flotation test, provide a guide for scoring canned peas which are fairly tender:

TABLE NO. IV

Type	Size	Maximum number of peas that sink in 10 seconds (percent by count)	Percentage of salt in solution
Sweet.....	All sizes.....	10	15
Early.....	All sizes.....	10	16

(e) (*SStd.*) *classification.* Canned peas that fail to meet the requirements of paragraph (d) of this section may be given a score of 0 to 36 points and shall not be graded above Substandard regardless of the total score for the product (this is a limiting rule) and may also be "Below Standard in Quality—Good Food—Not High Grade," for the following applicable reasons: "Excessive Cracked Peas," "Not Tender," "Excessively Mealy."

#### METHODS OF ANALYSES

§ 52.2292 *Methods of analyses*—(a) *Brine flotation test.* The brine flotation test utilizes salt solutions of various specific gravities to separate the peas according to maturity. The brine solutions are based on the percentage by weight of pure salt (NaCl) in solution. In making the test a 250 ml. glass beaker is filled with the brine solution to a depth of approximately two inches. The brine equipment, solution and sample should be at the same temperature. Only peas that sink to the bottom of the receptacle within 10 seconds after immersion are counted as "peas that sink." Pieces of peas and loose skins should not be used in making the brine flotation test.

(b) *Alcohol-insoluble solids.* (1) Pour sample on 8-mesh screen, using 8-inch screen for containers of less than 3 pounds net weight, and 12-inch screen for larger quantities. Spread peas evenly and allow to drain. Transfer peas to white pan and remove any foreign material. Add volume of H<sub>2</sub>O equal to double volume of original sample.

(2) Pour peas back on screen, spreading evenly; tilt screen as much as possible without shifting peas; and drain two minutes. With cloth wipe surplus moisture from lower surface of screen. Grind drained peas in food chopper until cotyledons are reduced to smooth homogeneous paste, stir, and weigh 20 grams of ground material into 600 ml. beaker. Add 300 ml. of 80 percent alcohol, stir, cover beaker, and bring to boil. Simmer slowly 30 minutes.

(3) Fit into Buchner funnel filter paper of appropriate size (previously prepared by drying in flat-bottom dish two hours at temperature of boiling H<sub>2</sub>O, covering with tight-fitting cover, cooling in desiccator, and weighing at once). Apply suction and transfer contents of beaker to the Buchner funnel in such manner as to avoid running over edge of paper. Suck dry and wash material on filter with 80 percent alcohol until washings are clear and colorless.

(4) Transfer filter paper and alcohol-insoluble solids to dish used in preparation of filter paper, dry uncovered two hours at temperature of boiling H<sub>2</sub>O, place cover on dish, cool in desiccator, and weigh at once. From this weight deduct weight of dish, cover, and paper. Calculate percent by weight of alcohol-insoluble solids.

(c) *Tenderness test.* Remove the skin of a pea, placing one of its cotyledons, with flat surface down on the approximate center of the level, smooth surface of a rigid plate, lowering a horizontal disc to the highest point of the cotyledon, and measuring the height of the cotyledon. The disc must be of rigid material and affixed to a rod held vertically by a support through which the rod can freely move upward or downward. The lower face of the disc must be a smooth, plane surface horizontal to the vertical axis of the rod. A device to which weight



may be added is affixed to the upper end of the rod. Before lowering the disc to the cotyledon, adjust the combined weight of disc, rod, and device to 100 grams. After measuring the height of the cotyledon, and shifting the plate, if necessary, so that the cotyledon is under the approximate center of the disc, add weight to the device at a uniform, continuous rate of 12 grams per second until the cotyledon is pressed to one-fourth its previously measured height, or until the combined weight of disc, rod, and device is 907.2 grams (2 pounds). A pea so tested shall be considered to be crushed when its cotyledon is pressed to one-fourth its original height.

#### LOT INSPECTION AND CERTIFICATION

§ 52.2293 *Ascertaining the grade of a lot.* The grade of a lot of canned peas covered by these standards is determined by the procedures set forth in the Regulations Governing Inspection and Certification of Processed Fruits and Vegetables, Processed Products Thereof, and Certain Other Processed Food Products (§§ 52.1 to 52.87; 22 F. R. 3535).

#### SCORE SHEET

##### § 52.2294 *Score sheet for canned peas.*

Size and kind of container.....  
 Label.....  
 Container mark or identification.....  
 Net weight (in ounces).....  
 Vacuum readings (in inches).....  
 Type.....  
 Size.....

Factors	Score points	Average score
Liquor.....	10 { (A) 9-10 (B) 8 (C) 7 (SStd.) <sup>1</sup> 0-6	
Color.....	10 { (A) 9-10 (B) 7-8 (C) <sup>2</sup> 5-6 (SStd.) <sup>1</sup> 0-4	
Defects.....	30 { (A) 27-30 (B) <sup>1</sup> 24-26 (C) <sup>1</sup> 21-23 (SStd.) <sup>1</sup> 0-20	
Maturity and tenderness.....	50 { (A) 45-50 (B) <sup>1</sup> 41-44 (C) <sup>1</sup> 37-40 (SStd.) <sup>1</sup> 0-36	
Total score.....	100	
Flavor and odor.....		
Grade.....		

<sup>1</sup> Indicates limiting rule.

<sup>2</sup> Indicates partial limiting rule.

*Effective time and supersedure.* The United States Standards for Grades of Canned Peas (which is the sixth issue) contained in this subpart shall become effective on date of publication hereof in the FEDERAL REGISTER, and will thereupon supersede the United States Standards for Grades of Canned Peas which have been in effect since May 1, 1942.

Dated: May 9, 1955.

[SEAL] ROY W. LENNARTSON,  
 Deputy Administrator,  
 Marketing Services.

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